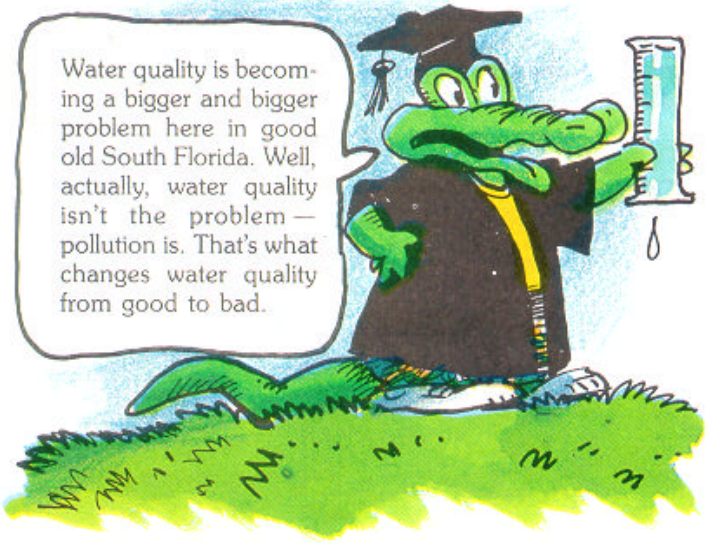
Pollution and Solutions



When you pollute something, you put something in it to make it unclean. Water gets polluted when things get in it that make it unhealthy for people or the environment.

For example, nitrogen and phosphorus make plants grow faster. But, if you get a lot of these chemicals in the water, you can encourage the growth of certain unwanted plants in the water. When this happens, the unwanted plants can use up all the oxygen in the water. Then, other plants and animals die due to lack of oxygen.

Take Lake Okeechobee, for example. So many nutrients like nitrogen and phosphorus have gotten into the lake that plant and animal life has been threatened. In some years large areas of the lake have been choked with a plant life called algae, which cuts off oxygen and greatly reduces the health of the lake.

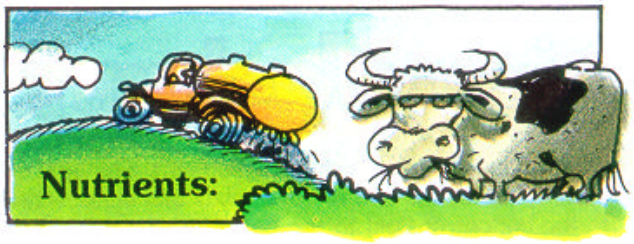
Fortunately for us, they are able to clean up the water that we get for drinking, but pollution has reached the point where it has harmed or killed many forms of life in some of our bodies of water.

And, as our population continues to grow, pollution could reach the point where it becomes a problem for our drinking water, too. For example, in some parts of the country, people have dumped chemicals on the ground that have soaked down into the aquifers, making it dangerous to use the groundwater in that area.

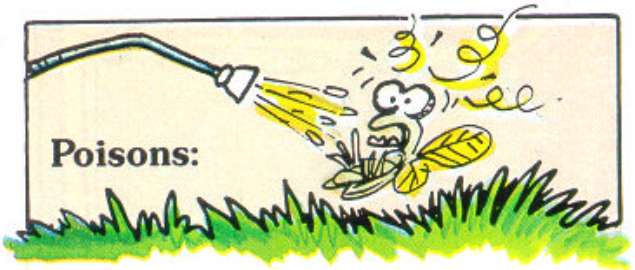
One major problem has been from old gas stations. They store their gasoline in underground tanks, and some of the old-style tanks have leaked thousands of gallons of gasoline into the groundwater — almost like an underground oil spill. Sometimes this can be cleaned up, but the process takes a long time and is very expensive.

The main way that pollution gets into lakes, streams and wetlands is stormwater runoff. This is the rainwater that drains off the land. It picks up pollution from farms, yards, streets and parking lots. It gets into the surface waters wherever it drains, carrying the impurities with it.

Let's take a look at some of the things that pollute our water, and why they're such a problem.



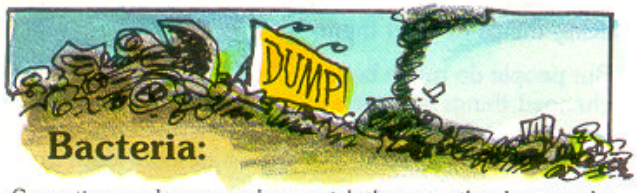
The nitrogen and phosphorus I was talking about are examples of nutrients — things that make other things grow. They can come from fertilizer. Phosphorus also can come from animal manure on farms. When heavy concentrations of nutrients get into the water, they can cause the algal blooms I mentioned. This not only uses up oxygen, it also blocks sunlight. And when the algae dies it decays in the water, giving it a bad taste.



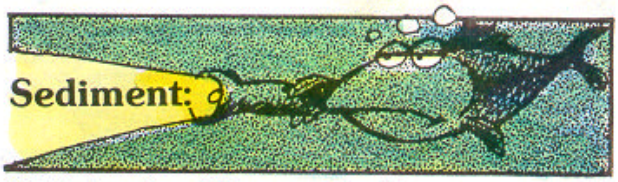
People use sprays and other chemicals to kill insects, pests and weeds. These poisons are called pesticides and herbicides. If not used properly, they can be harmful to more than just pests and weeds. In fact, some of these poisons, even in small amounts, can be harmful to humans. And many are deadly for fish, plants, birds and other wildlife.

These are similar to poisons, in that they can kill. But they weren't meant to get into the systems of plants and animals. They are things used for other purposes, but then got dumped where they got into the water. Oils, paints, gasoline, cleaning solvents, waxes and antifreeze are just a few. Just like some pesticides, they can kill plant and animal life in water.

We're not talking loud music here! Metals may be found suspended in water in very, very tiny particles which are so small they are not visible. Fish and other wildlife, and humans, too, may be extremely sensitive to these metals. Lead from old car batteries is a problem. So are other heavy metals like copper, zinc, mercury, cadmium and chromium.



Sometimes when people are sick they say they've caught a "bug." What they've really got is a bacteria or virus — also known as germs. Bacteria can get into the water supply from many sources, including garbage, animal manure and leaking septic tanks.



Dirt that washes off the ground and into stormwater will settle out some place else, as soon as the water slows down and it gets a chance to sink. When it settles to the bottom it is called sediment. The dirt makes the water cloudy and fills up stream beds and lake bottoms. It keeps plants from growing, covers up shellfish beds and carries other pollutants from the soil with it.

The more people you have, the more pollution you're likely to have. I guess you can see that as South Florida keeps growing, so do its pollution problems. A lot of programs have been started to cut down on pollution, but every person can stop being a part of the problem and start being a part of the solution.

How You Can Help

Here are a few ways you and your family can help.

- Only use pesticides when you need them. There are more natural ways to kill unwanted pests. Contact your county extension agent for details.
- Don't use too much fertilizer, and don't fertilize near surface water areas. Follow instructions and there won't be as much chance of the chemicals ending up in our water.
- Get rid of hazardous wastes properly. Take them to collection sites instead of dumping them out on the ground or in your household garbage.
- Never water paved areas. Besides being wasteful, the water carries away oil and grease that is bad for the environment.

Xeriscape

One way to save a lot of water at home is with a new kind of landscaping, called Xeriscape. The basic idea is to use as many plants as possible that don't need watering. And plants that do need watering, like certain flowers, bushes and lawns, are grouped together.

Here are the basic steps to Xeriscape:

- **Design** yards that take advantage of things like where there is already shade and where water drains.
- **Choose** mostly plants that can live on normal rainfall, and put plants with similar water needs into three groups — those that need no watering, those that only need watering during dry spells and those that need regular watering.
- **Improve the soil** by adding compost or other organic material that holds water longer than our natural sandy soil.
- **Use grass wisely** — mainly where people play or relax. Other areas can be planted with low-growing, low-water-use plants called ground cover.
- **Water wisely** — only when plants need it, and with equipment that prevents water waste from wind, evaporation or gutter flooding.
- **Use mulch**, like oak leaves or shredded bark, to cover dirt under plants — it reduces evaporation and keeps out weeds.
- **Take it easy** — a Xeriscape yard doesn't like too much water or too much fertilizer, and the grass likes to be tall.